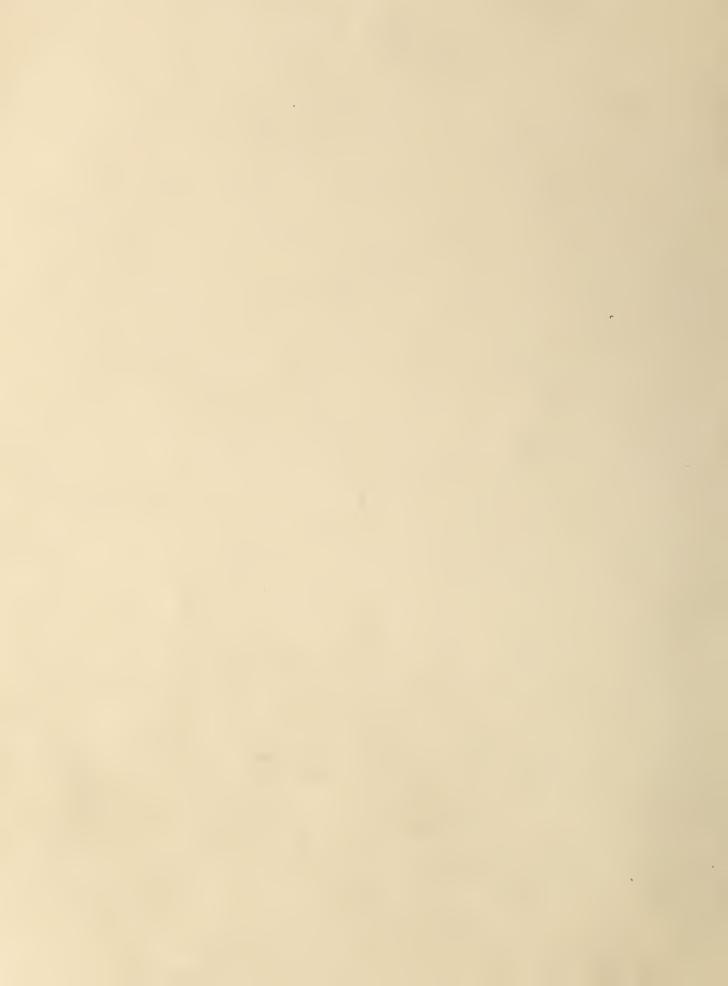
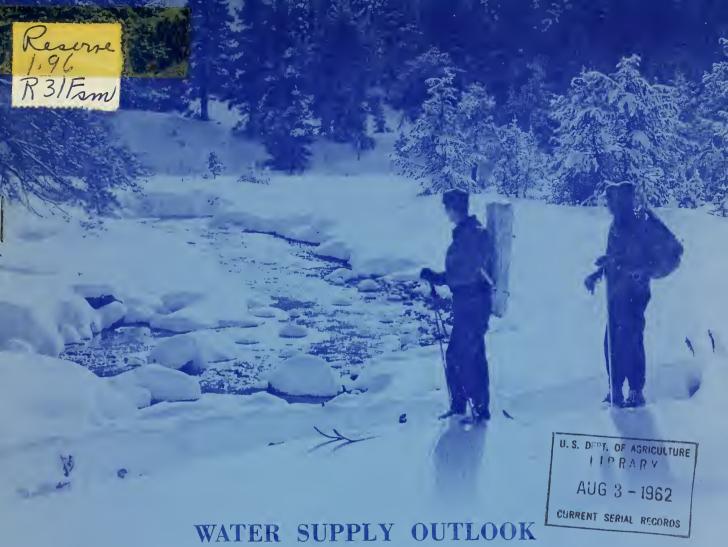
# **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

for

COLORADO and NEW MEXICO

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE and

COLORADO AGRICULTURAL EXPERIMENT STATION, STATE ENGINEER of COLORADO and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service and other Federal, State, and private organizations.

FEB. 1, 1962

#### UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

	PUBLISHED BY SOIL	CONSERVATION SERVICE	
REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
COLORADO ANO STATE OF UTAH _	MONTHLY (JAN JUNE)	SALT LAKE CITY, UTAH	. UTAH STATE ENGINEER AND OTHER AGENCIES
COLUMBIA	MONTHLY (JANMAY)	BOISE, IOAHO	. IOAHO STATE RECLAMATION ENGINEER
UPPER MISSOURI AND STATEOF MONTANA	MONTHLY (FEBJUNE)_	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
WEST-WIDE	OCT. 1, APR. 1, MAY 1	PORTLANO, OREGON.	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MARMAY)	PALMER. ALASKA	ALASKA S.C.D.
AR I ZON A	SEMI-MONTHLY (JAN.15 - APR.1)		SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORACO ANO NEW MEXICO	MONTHLY (FEBMAY)	** .	.COLO. AGR. EXP. STATION COLO. STATE ENGINEER N. MEX. STATE ENGINEER
I O A H O	MONTHLY (FEBMAY)	BOISE, IOAHO	. IOAHO STATE RECLAMATION ENGINEER
NEVAGA	MONTHLY (JANMAY)		NEVAGA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
ORE GON	MONTHLY (JANJUNE)		ORE. AGR. EXP. STATION OREGON STATE ENGINEER
WASHINGTON	MONTHLY (FEBJUNE)_	SPOKANE. WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB JUNE)	CASPER, WYOMING	. WYOMING STATE ENGINEER
Copies of thes	e various reports may be	secured from:  Head, Water Supply For Soil Conservation Set P.O. Box 4170, Portl	rvice
	PUBLISHED B	Y OTHER AGENCIES	
REPORTS	ISSUED		AGENCY
BRITISH COLUMBIA	MONTHLY (FEBJUNE)		RIGHTS BR., DEPT, OF LANOS AND T BLOG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEBMAY)	CALIF. DEPT. OF WA	TER RESOURCES, SACRAMENTO, CALIF.

So

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#### FEDERAL-STATE COOPERATIVE

#### SNOW SURVEYS AND WATER SUPPLY FORECASTS

for

COLORADO RIVER, PLATTE RIVER ARKANSAS RIVER AND RIO GRANDE DRAINAGE BASINS

Issued

February 1, 1962

Report Prepared By
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and
Don W. McAndrew, Assistant Snow Survey Supervisor
Fort Collins, Colorado

United States Department of Agriculture
Soil Conservation Service
and
Colorado Agricultural Experiment Station
Fort Collins, Colorado
and
State Engineer of Colorado
Denver, Colorado
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State Engineer
State of Colorado

Sherman S. Wheeler, Director Colorado Agricultural Experiment Station S. E. Reynolds State Engineer State of New Mexico

General Series Paper No.765
Colorado Agricultural Experiment Station



FEBRUARY 1, 1962

WATER SUPPLY OUTLOOK AS OF FEBRUARY 1, 1962 IS MUCH IMPROVED OVER A YEAR AGO. SNOW COVER IN ALL MOUNTAIN AREAS OF COLORADO AND NEW MEXICO IS ABOVE NORMAL. THE COLORADO RIVER, GUNNISON, AND NORTH PLATTE BASINS ARE APPROACHING 150% OF NORMAL SNOWPACK. THE SAN JUAN AND DOLORES DRAINAGES IN SOUTHWESTERN COLORADO AND NORTHWESTERN NEW MEXICO HAVE THE POOREST SNOW COVER. THE SNOW HERE IS ONLY ABOUT 105% OF NORMAL.

#### COLORADO

Colorado snowpack is the best since 1957 in most areas. Snow-pack is fairly consistent throughout the State and is about 135% of normal, with the exception of the Southwestern corner which is just above normal.

Soil moisture is another bright spot. All stations indicate that soils are wetter than normal and in far better condition than last year.

#### RESERVOIR STORAGE

Carry-over storage without exception is better than last year. Some individual reservoirs may be slightly less than last year, but the basins as a whole are in better shape.

The South Platte is especially in good conditions, where many reservoirs are full or expected to fill before next irrigation season.

#### NEW MEXICO

Snow cover is above normal on all drainages in New Mexico. Consierable more snow is needed, however, to alleviate the water shortage that has existed in this area for several years.

Soil moisture is reported as good throughout the entire length of the Rio Grande. Mountain soils are also much above normal.

#### RESERVOIR STORAGE

Reservoir storage was diminished again last year and stands at about 60% of normal. Storage on Canadian and Pecos drainages is excellent again as last year. A good water supply is virtually assured for these basins.

## WATER SUPPLY OUTLOOK

THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAMFLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.



#### TABLE OF CONTENTS

#### WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

#### WATERSHED I - SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson.
Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County,
Morgan, Kiowa, West Arapahoe, West Adams, East Adams,
Platte Valley, Southeast Weld, and West Greeley Soil Conservation
Districts.

#### WATERSHED II - ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

#### WATERSHED III - RIO GRANDE WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Mosca, Hooper, Mt. Blanca, Sanches, and Culebra Soil Conservation Districts.

#### WATERSHED IV - RIO GRANDE WATERSHED (NEW MEXICO)

Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrith, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.

#### WATERSHED V - DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin. Dove Creek, Dolores. Mancos, LaPlata, Pine River, San Juan, and Glade Park Soil Conservation Districts.

#### WATERSHED VI - GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompandere Soil Conservation Districts.

#### WATERSHED VII - COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.

#### WATERSHED VIII - YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.

#### WATERSHED IX - LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Haxton, Peetz, Padroni, Morgan Rock Creek and Yuma Soil Conservation Districts.

# SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

SNOW PACK OVER THE ENTIRE BASIN IS ABOVE NORMAL. NOT ONLY IS SNOW COVER EXCELLENT IN THE MOUNTAINS, BUT MOST OF THE PLAINS AREA HAS BEEN COVERED WITH FROM A FEW INCHES TO A FOOT OR MORE ALL MONTH. COLD TEMPERATURES HAS PREVAILED MOST OF THE MONTH, HOWEVER, THE LAST WEEK THAWING TEMPERATURES HAVE EXISTED. SNOW COVER IN THE MOUNTAIN AREAS STANDS AT ABOUT 130% OF THE 15-YEAR AVERAGE. BOTH THE NORTHERN AND SOUTHERN PARTS OF THE BASIN HAVE ABOUT EQUAL SNOW.

IF THIS TREND CONTINUES, EXCELLENT WATER SUPPLIES CAN BE ANTICIPATED THIS YEAR.

LESS THAN HALF OF THE SNOW SEASON HAS PASSED. SNOWFALL MUST CONTINUE TO BE GOOD TO INSURE A GOOD WATER SUPPLY.

#### SOIL MOISTURE

SOIL MOISTURE AT THE HIGH ELEVATIONS IS INDICATING NEAR A RECORD HIGH. HEAVY PRECIPITATION DURING THE LATE SUMMER AND FALL FILLED THE SOIL MANTLE AND SUBSEQUENT EARLY SNOWS HAVE KEPT THE SOILS SATURATED.

SOILS IN THE IRRIGATED AREAS ARE ALSO IN VERY GOOD CONDITION.
THIS CONDITION COULD ADD MATERIALLY TO THE ANTICIPATED RUNOFF
THIS SPRING.

#### RESERVOIR STORAGE

CARRY-OVER STORAGE IN THIS BASIN IS ABOUT 125% OF THE 15-YEAR AVERAGE. THE CITY OF DENVER STORAGE IS AS GOOD AS IT HAS EVER BEEN AT THIS TIME OF THE YEAR. RESERVOIRS ON THE CACHE LA POUDRE, BOULDER, AND BIG THOMPSON ARE GENERALLY ABOVE NORMAL AND SIMILAR TO LAST YEAR. THESE WILL BE AN EXCELLENT SUPPLEMENT TO THE ANTICIPATED SPRING RUNOFFS.

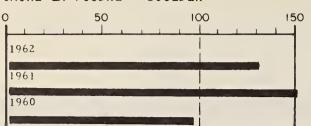
THE BIG THOMPSON PROJECT CONTAINS 573,000 ACRE FEET OF WATER COMPARED TO A NORMAL OF ONLY 376,000 ACRE FEET. LAST YEAR THIS RESERVOIR SYSTEM CONTAINED 420,000 ACRE FEET.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

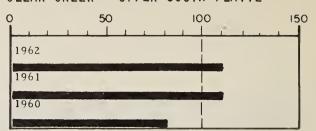
## 'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

ISSUED BY: SOIL CONSERVATION SERVICE

#### CACHE LA POUDRE - BOULDER



#### CLEAR CREEK - UPPER SOUTH PLATTE



# RESERVOIR STORAGE (1,000 AC. FT.)

#### SOIL MOISTURE

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
	22.0		25.5	71.0	43 : 0			0.5	, ,
Antero	33.0	15.7	15.7	14.9	Alpine Camp	7.0	4.2	0.5	1.7
Black Hollow	8.0	4.7	2.2	3.4	Beaver Dam	6.0	3.3	0.7	1.5
Boyd Lake	44.0	4.1	34.6	18.5	Feather	6.0	2.9	0.0	1.3
Cache La Poudr		9.3	4.6	7.6	Guard Station	1 1	4.6	0.7	1.4
Carter Lake *	108.9	80.6	63.2	69.2	Hoop Creek	6.0	5.4	0.5	2.4
Chambers Lake	8.8	6.3	1.4	2.6	Hoosier Pass	7.0	6.9	0.9	2.9
Cheeseman	79.0	79.1	60.9	52.7	Kenosha Pass	7.0	4.2	0.4	
Cobb Lake	34.3	20.4	12.9	5.5	Laramie Road	7.0	6.0	3.0	2.6
Eleven Mile	81.9	97.8	97.8	69.4	Two Mile	8.0	5.8	0.5	3.3
Fossil Craek	11.6	7.6	6.7	7.9					
Gross	43.1	40.6	19.0						
Halligan	6.4	4.8	2.5	2.0			•		
Horsetooth *	143.5	121.7	89.2	94.0	i				
Lake Loveland	14.3	8.7	7.6	7.0					
Lone Tree	9.2	7.8	4.3	8.4	AL	L PROFILI	ES 4 FEET	DEEP	
Mariano	5.4	4.9	3.9	3.1					
Marshall	10.3	6.0	0.9	3.5					
Marston	18.9	16.9	5.2	15.1					
Milton	24.4	12.3	14.0	12.8					
Standley	18.5	13.1	7.0	12.4					
Terry Lake	8.2	5.8	0.9	4.0					
Union	12.7	12.0	8.4	7.2					
•	18.6			15.6					
N	MEASURED FI	RST OF MONT	Н		STREAMFLO	W FOR	ECAST		
					APRIL THROUG	JHSEPTEN	MBEK		

#### Shorter Period.

#### PRECIPITATION

STATION	AUGUST T NOVEN AVE.		win ave.	DEP.
Upper South Flatte	8.07	+3.71	•29	29

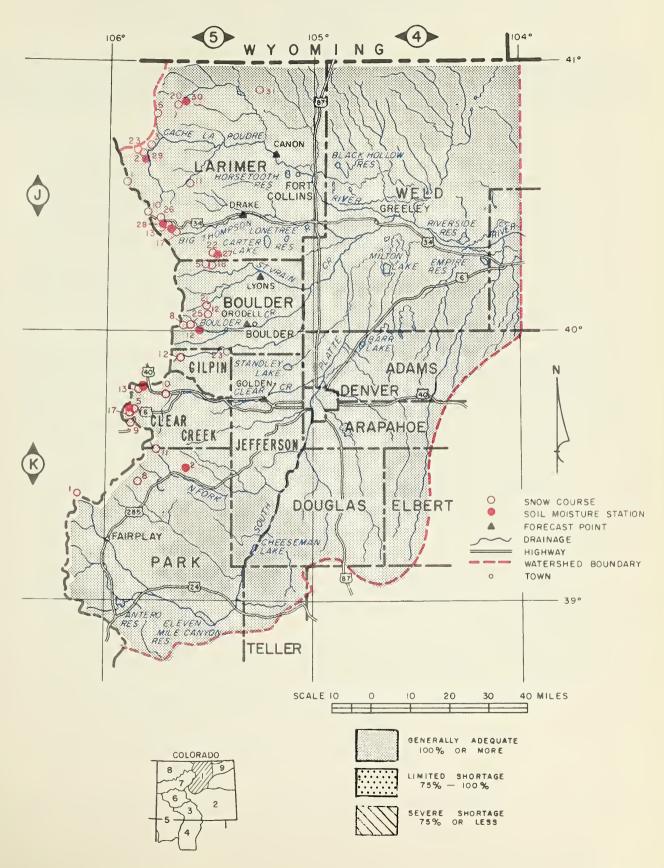
PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

ST	RE	AM	FL	OW	FOR	REC	AST
	APR	IL T	HRO	UGH	SEPTE	MBE	R

STREAM AND STATION	AF	ECAST PRIL - EPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
No Forecasts until March l.				

- (1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- (2) Observed flow plus by-pass to power plants.
- (3) Observed flow minus diversions through Jones Tunnel.

# SOUTH PLATTE RIVER WATERSHED IN COLORADO



SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER COUNCHE	
SCUTH PLATTE RIVER AND TRIBUTARIES Baltimore Berthoud Falls Big South Boulder Falls Cameron Pass (A) Chambers Lake Copeland Lake Deadman Hill (A) Deer Ridge Empire Geneva Park Grizzly Peak (B) Hidden Valley Hoosier Pass Hour Glass Lake Jefferson Creek Lake Irene Long's Peak Lost Lake Loveland Pass Loveland Lift No. 1 Pine Creek Red Feather Two Mile University Camp Ward Wild Basin	5K23 5K13 5J3 5J25 5J1 5J2 5J18 5J17 5K10 5K11 5K9 5J13 6K1 5J11 5K8 5J10 5J22 5J23 5K5 5J23 5K24 5J20 5J26 5J26 5J26 5J26 5J26 5J27	2/1 1/28 1/30 2/1 1/28 1/29 2/1 1/29 2/1 NS 1/29 1/28 1/30 Est. NS Est. 1/27 1/28 1/30 1/29 1/30 1/29 1/26 1/30 1/29 Est.	28 43 11 36 63 27 7 55 27 54 41 22 65 34 43 13 56 47 25 47 21 45	7.7 12.0 2.2 4.9 21.2 7.4 4.0 16.8 5.9 5.9 15.0 10.1 10.8 5.6 -22.2 7.5 10.2 13.2 22.3 2.3 7.1 15.0 10.5 4.9 13.6	4.2 3.9 1.4 6.2 7.3 3.1 2.7 6.1 1.7 4.1 5.0 NS 5.9 5.9 5.2 10.3 2.2 5.4 9.4 4.1 4.3	

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Ft Collins, Colorado

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UNITED STATES

#### DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Ft, Collins, Colorado

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U.S. DEPARTMENT OF AGRICULTURE

# ARKANSAS RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1962

# U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

SNOW PACK ON THE ARKANSAS RIVER DRAINAGE IS HIGHER THAN IT HAS BEEN FOR SEVERAL YEARS. THE DRAINAGE AS A WHOLE IS ABOUT 147% OF THE 15-YEAR NORMAL. THE HIGH ELEVATION SNOW COURSES HAVE ABOUT THE SAME PERCENTAGE OF SNOW COVER AS THE LOW COURSES. UNTIL JUST RECENTLY, EVEN THE VALLEY FLOOR HAD CONSIDERABLE SNOW COVER. THIS EITHER HAS DISSIPATED, OR WILL BE, SHORTLY WITH THE RELATIVELY HIGH TEMPERATURES WE ARE ENCOUNTERING.

SNOW STARTED FALLING EARLY ON THE DRAINAGE AND CONTINUED TO FALL THROUGH JANUARY.

IF THIS TREND CONTINUES, WATER SUPPLIES WILL BE ADEQUATE THIS SUMMER.

#### SOIL MOISTURE

SOIL MOISTURE AT THE HIGH ELEVATIONS IS EXCELLENT. IT IS CONSIDERABLY BETTER THAN LAST YEAR AND SLIGHTLY BETTER THAN NORMAL. SOIL MOISTURE IN THE HIGH MOUNTAINS IS NORMALLY FAIRLY GOOD IN THIS AREA.

SOIL MOISTURE IN THE IRRIGATED AREAS IS REPORTED GOOD AS FAR DOWN THE RIVER AS GARDEN CITY, KANSAS.

GOOD SOIL MOISTURE WILL TEND TO INCREASE THE ANTICIPATED SPRING RUNOFF. WITH CONSIDERABLY ABOVE NORMAL SNOW COVER AND GOOD SOIL MOISTURE CONDITIONS, AN ADEQUATE WATER SUPPLY IS ANTICIPATED THIS SUMMER.

#### RESERVOIR STORAGE

CARRY-OVER STORAGE IS ONLY ABOUT 70% OF NORMAL. PRIMARILY BECAUSE SHORTAGE IN JOHN MARTIN AND THE GREAT PLAINS RESERVOIRS. GREAT PLAINS HAS CONSIDERABLY MORE WATER STORED THAN LAST YEAR, AS HAS JOHN MARTIN.

THE RIVER IS RUNNING NORMAL TO ABOVE, SO SOME ADDITIONAL WATER MAY BE ADDED TO STORAGE PRIOR TO THE IRRIGATION SEASON.

AS A WHOLE RESERVOIR STORAGE IS LOOKING UP AND EXPECTED TO BE A GOOD SUPPLEMENT TO RIVER FLOW THIS SUMMER.

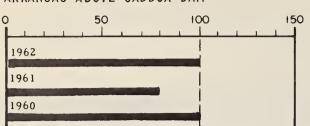
NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

#### 'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

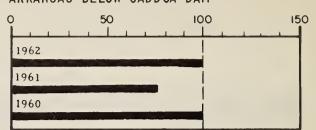
ISSUED BY: SOIL CONSERVATION SERVICE

K. W. Chalmers, State Conservationist, Colorado Dearl B. Beach, Area Conservationist, Colorado Springs, Colorado Will D. McCorkle, Area Conservationist, Lamar, Colorado

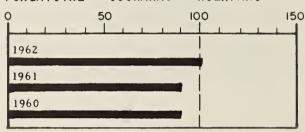
#### ARKANSAS ABOVE CADDOA DAM



#### ARKANSAS BELOW CADDOA DAM



#### PURGATOIRE - CUCHARAS - HUERFANO



#### RESERVOIR STORAGE (1.000 AC. FT.)

Adobe Creek   61.6   0   0   22.4	WEGEN 10 IN	OTOMAGI	- (1,00	, o , o .	,
Clear Creek       11.4       10.0       5.5       5.7         Cucharas       40.0       6.8       1.5       5.5         Great Plains       150.0       28.9       9.4       44.4         Horse Creek       26.9       6.6       9.6       7.3         John Martin       366.6       19.4       9.9       58.5         Meredith       41.9       14.1       0       13.4         Model       15.0       5.2       4.1       2.2         Sugar Loaf       17.4       10.6       1.5       8.0	RESERVOIR				AVERAGE
Clear Creek       11.4       10.0       5.5       5.7         Cucharas       40.0       6.8       1.5       5.5         Great Plains       150.0       28.9       9.4       44.4         Horse Creek       26.9       6.6       9.6       7.3         John Martin       366.6       19.4       9.9       58.5         Meredith       41.9       14.1       0       13.4         Model       15.0       5.2       4.1       2.2         Sugar Loaf       17.4       10.6       1.5       8.0					
	Clear Creek Cucharas Great Plains Horse Creek John Martin Meredith Model Sugar Loaf	11.4 40.0 150.0 26.9 366.6 41.9 15.0 17.4	10.0 6.8 28.9 6.6 19.4 14.1 5.2 10.6	5.5 1.5 9.4 9.6 9.9 0 4.1 1.5	5.7 5.5 44.4 7.3 58.5 13.4 2.2 8.0

#### PRECIPITATION

STATION	AUGUST NOVEN	THROUGH MBER DEP.	winter AVE Dec.		
Arkansas	8.36	+3.49	•98	+.28	

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

MEASURED FIRST OF MONTH

#### SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	I AST I	AVERAGE ALL PAST DATA)
Garfield King Lake Creek LaVeta Pass Leadville	7.0	4.6	3.4	4.3
	8.0	5.5	2.6	5.4
	6.0	4.1	1.6	3.4
	8.0	4.2	7.2	3.3
	7.0	3.8	0.6	1.5

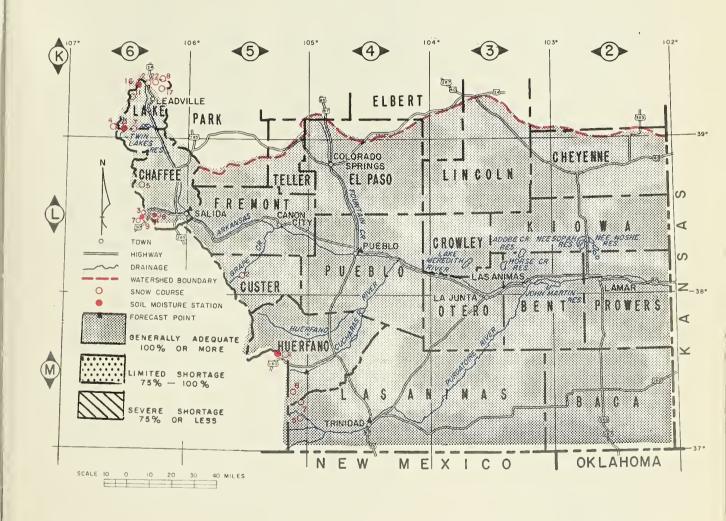
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STREAMFLOW FORECAST

APRIL THROUGH SEPT	EMDER	
STREAM AND STATION	FORECAST APRIL - SEPT.	AVERAGE 1943-57
No Forecast until March l.		
<ol> <li>Observed flow plus change i Twin Lakes, and Sugar Lo</li> </ol>		

(1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

# ARKANSAS RIVER WATERSHED IN COLORADO





SNOW	CURREN	T INFORMA	TION	PAST RI	ECORD
SNOW COURSE NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CO (INCHE LAST YEAR	
ARKANSAS RIVER Blue Lakes Bigelow Divide Bourbon Cooper Hill Cucharas Pass East Fork Four Mile Park Fremont Pass Garfield LaVeta Pass (B) Monarch Pass St. Elmo (A) Tennessee Pass Tomichi Twin Lakes Tunnel Westcliffe  5M6 5M6 5M2 5M7 6K23 6K17 6K17 6K7 Fremont Pass 6K8 6L8 6L8 6L8 6L8 6L8 6L8 6L4 6L5 6L7 6K2 6L7 6K3 6E3 6E4 5E4 6E5	1/29 NS NS 1/28 1/29 1/31 1/28 1/30 1/29 1/30 1/28 1/26 NS	14 42 26 32 32 54 47 32 56 50 36 42 49	2.9 8.9 6.3 8.1 7.7 15.0 12.7 9.6 15.2 11.5 8.5 10.5 12.1	8.8	5.8* 3.0 10.3 

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Ft Collins, Colorado

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#### DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Ft. Collins, Colorado

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# UPPER RIO GRANDE WATERSHED IN COLORADO

as of

FEBRUARY 1, 1962

# U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO.

#### SNOW COVER

SNOW COVER IN THIS BASIN IS VASTLY IMPROVED OVER A YEAR AGO AND ABOUT 135% OF NORMAL.

SNOW PACK IS ESPECIALLY GOOD ON THE ALAMOSA AND CONEJOS RIVER DRAINAGES.

ONE OF THE EARLIEST SNOW FALLS ON RECORD WAS EXPERIENCED THIS YEAR.

IF THE SNOW PACK CONTINUES TO INCREASE AT THE PRESENT RATE, IRRIGATED AREAS OF THE STATE SHOULD HAVE A MORE THAN ADEQUATE WATER SUPPLY THIS SUMMER.

#### SOIL MOISTURE

SOIL MOISTURE IS POORER THIS YEAR THAN LAST, BUT STILL ABOVE NORMAL.
THE LAVETA PASS AREA WAS ALMOST SATURATED LAST YEAR AT THIS TIME
AND IS ONLY ABOUT 50% SATURATED THIS YEAR. VALLEY SOILS ARE REPORTED
AS FAIR TO GOOD. THE GOOD SOIL MOISTURE WILL INCREASE THE RUNOFF
THIS SUMMER FROM ALL STREAMS IN THIS BASIN.

#### RESERVOIR STORAGE

RESERVOIR STORAGE IS ABOUT 90% OF NORMAL, BUT BETTER THAN LAST YEAR AT THIS TIME.

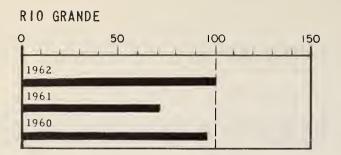
#### PRECIPITATION

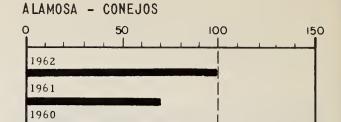
PRECIPITATION DURING THE FALL MONTHS WAS ABOVE NORMAL, BUT THE LAST TWO MONTHS HAS BEEN SLIGHTLY LESS THAN NORMAL.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

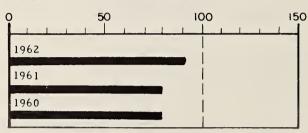
'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

ISSUED BY: SOIL CONSERVATION SERVICE





#### SANGRE DE CRISTO STREAMS



# RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	IS YEAR AVERAGE 1943 - 57
Continental Platoro Rio Grande Sanchez Santa Maria Terrace	26.7 60.0 45.8 103.2 45.0 17.7	4.9 3.4 9.3 11.9 3.0 7.1	4.1 4.0 5.3 8.1 2.1 2.4	7.1 4.7 11.4 10.9 7.5 3.0
	MEASURED FI	RST OF MONT	Н	

#### PRECIPITATION

STATION	AUGUST 1 NOVEN AVE.			
Rio Grande (Colo.)	8.26	+3.74	.42	07

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

#### SOIL MOISTURE

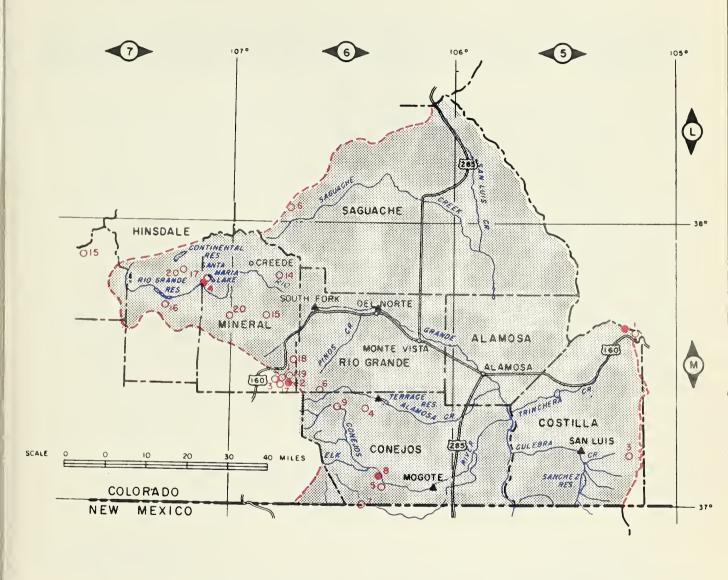
SOIL MOISTURE						
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)		
Alberta Park Bristol View LaVeta Pass Mogote	1 - 1	4.1 3.9 4.2 2.1	1.1 6.7 7.2 1.8	3.3 3.6 3.3 1.5		

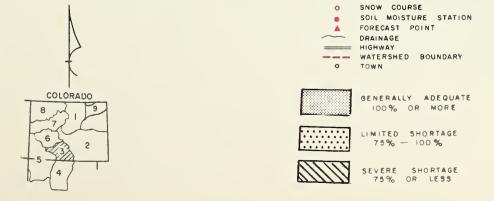
STREAMFLOW FORECAST

STREAM AND STATION	FORECAST APRIL - SEPT.	AVERAGE 1943-57
No Forecasts until March l.		

- ALL PROFILES 4 FEET DEEP
- (1) Observed flow plus change in storage in Santa Maria, Rio Grande, and Continental Reservoir
- (2) Observed flow plus changes in storage in Sanchez Reservoir.

# UPPER RIO GRANDE WATERSHED IN COLORADO





5,L-17,260

RIO GRANDE IN COLORADO Cochetopa Pass Hiway Lake Humphreys Fass Creek Fool Table (A) Forcupine (A) Red Mountain Pass (B) Santa Maria Upper Rio Grande Wolf Creek Pass Wolf Creek Summit (B) ALAMOSA RIVER Silver Lakes Summitville (A) CONEJOS RIVER Cumbres Pass (A) River Springs SANGRE DE CRISTO RANGE (Colo) Blue Lakes (B) FML9 1/25 23 4.0 4.8 3.5* 4.0 4.8 6.9* 4.8 6.9* 4.9 6.2 4.5 12.2 14.9 6.9 6.2 1.3 4.0 6.9 6.9 1/29 25 6.2 1.3 4.0 6.9 6.9 1/29 25 6.2 1.3 4.0 6.9 6.9 1/29 1/29 6.2 1.3 6.9 1/29 6.4 NS 6.2	SNOW		CURRENT INFORMATION			PAST RECORD	
Cochetopa Pass	SNOW COURSE	NO.	OF	DEPTH	CONTENT	(INC'HE	
Culebra 1/30 29 5.7 NS 6.5 SMI 1/30 32 9.6 2.8 6.6	Cochetopa Pass Hiway Lake Humphreys Pass Creek Pool Table (A) Porcupine (A) Red Mountain Pass (B) Santa Maria Upper Rio Grande Wolf Creek Pass Wolf Creek Summit (B) ALAMOSA RIVER Silver Lakes Summitville (A) CONEJOS RIVER Cumbres Pass (A) Platoro (A) River Springs SANGRE DE CRISTO RANGE (Colo) Blue Lakes (B) Cucharas Pass (B) Culebra	6M19 6M15 6M18 5M14 7M20 7M15 7M17 7M16 6M1 7M17 6M4 6M6 6M7 6M9 6M5 5M6 5M7 5M3	1/29 NS 1/30 1/30 1/30 1/29 1/29 1/29 NS 1/30 1/30 1/30 1/29 1/29 1/29 1/29 1/29	61 	4.0 18.2  10.6 11.1 15.1 24.5 6.2 8.2 21.0 22.0  16.5 15.0 17.8 6.4 2.9 6.3 5.7	4.8 6.7  3.1 NS 4.8 12.2 1.3 3.6 7.6 8.1 3.9 8.7 8.2 NS NS	3.5*  6.9* 14.9 4.0 5.6 19.5 17.6* 5.1 11.1* 13.5  6.2

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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# RIO GRANDE WATERSHED IN NEW MEXICO

as of

FEBRUARY 1, 1962

# U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

SNOW COVER IN THE HEADWATERS AREA OF COLORADO IS ABOUT 128% OF NORMAL. THE MIDDLE AREA OF THE RIO GRANDE IN NEW MEXICO HAS A SIMILAR SNOW PACK. IT IS ABOUT 130% OF NORMAL. THIS IS CONSIDERABLY BETTER THAN LAST YEAR, BUT ADDITIONAL SNOW IS NEEDED TO INSURE A BIG ENOUGH RUNOFF TO ALLEVIATE THE SHORTAGE THAT HAS EXISTED FOR SEVERAL YEARS.

THE SNOW PACK WAS LAYED DOWN BY SEVERAL GENERAL STORMS WHICH BLANKETED THE ENTIRE MIDDLE AND UPPER BASINS. THIS ACCOUNTS FOR SIMILAR PERCENTAGES OF SNOW COVER.

SNOW COVER ON PECOS AND CANADIAN BASINS IS EXCELLENT.

#### SOIL MOISTURE

SOIL MOISTURE CONDITIONS ARE FAR BETTER THAN LAST YEAR AT THIS TIME. LAST SPRING AND FALL PRECIPITATION SATURATED THE HIGH ELEVATION SOILS AND THEY ARE NOW IN EXCELLENT CONDITION.

SOIL IN THE UPPER BASIN IN COLORADO AND SCILS IN THE MIDDLE BASIN IN NEW MEXICO ARE ABOUT THE SAME AS FAR AS MOISTURE CONTENT IS CONCERNED.

VALLEY SOILS ARE REPORTED AS GOOD THROUGHOUT THE ENTIRE LENGTH OF THE RIO GRANDE BASIN.

SOILS IN THE VALLEY OF THE CANADIAN AND PECOS DRAINAGE ARE REPORTED AS FAIR.

#### RESERVOIR STORAGE

CARRY-OVER STORAGE IN ELEPHANT BUTTE RESERVOIR HAS DECLINED FROM LAST YEAR. IT NOW CONTAINS ABOUT 400,000 ACRE FEET COMPARED TO 581,000 ACRE FEET NORMALLY. RESERVOIRS WERE DEPLETED LAST YEAR TO OFFSET THE LESS THAN NORMAL RUNOFF. IF THE SNOW PACK CONTINUES TO GROW AT THE CURRENT RATE, PERHAPS THIS DEPLETION WILL CEASE.

OTHER RESERVOIRS ON THE MAIN STEM ARE GENERALLY BELOW LAST YEAR AND MUCH BELOW NORMAL.

CONCHAS RESERVOIR ON THE CANADIAN BASIN IS FULL AND ANOTHER GOOD WATER SUPPLY IS ANTICIPATED IN THIS AREA.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

### 'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

ISSUED BY: SOIL CONSERVATION SERVICE

150

# RESERVOIR STORAGE (1,000 AC. FT.)

.,				
RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57
Alamorgordo Elephant Butte El Vado Caballo McMillan-Avalor Red Bluff(Tex)	194.5 344.0 37.0	110.0 399.4 2.5 21.9 21.4 60.9	122.1 460.8 1.8 18.8 43.4 120.0	47.4 581.2 34.9 155.7 13.7 87.1

MEASURED FIRST OF MONTH

#### PRECIPITATION

STATION	AUGUST T NOVEN AVE.		AVE.	TER DEP. C.		
Lower Rio Grande Middle Rio Grande Upper Rio Grande	8.26 U.S. WEA	+1.84 +2.72 +3.74 THER BUR	1.42 .42	L.07		

AVERAGE OF SELECTED STATIONS

# SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park (Colo) Aqua Fiedra Bateman Big Tesuque Bristol View (Colo) Chamita (New Mex.) Fenton Hill Mogote (Colo) Red Summit Rio En Medio Taos Canyon	7.2 6.7 3.7	4.1 1.1 3.0 1.9 3.9 3.4 4.3 2.1 0.4 2.0	1.1 2.9 0.2 0.7 6.7 1.9 4.3 1.8 0.2 0.1 0.1	3.3 1.7 2.7 1.4 3.6 2.5  1.5 2.2 1.4

RIO CHAMA			
0	50	100	150
1962	1 1 1		
1961			
1960			

100

UPPER RIO GRANDE

1962

1961

1960

50

MIDDLE	RIO GRANDI	E	
0	50	100	150
1962			
1961			
1960			

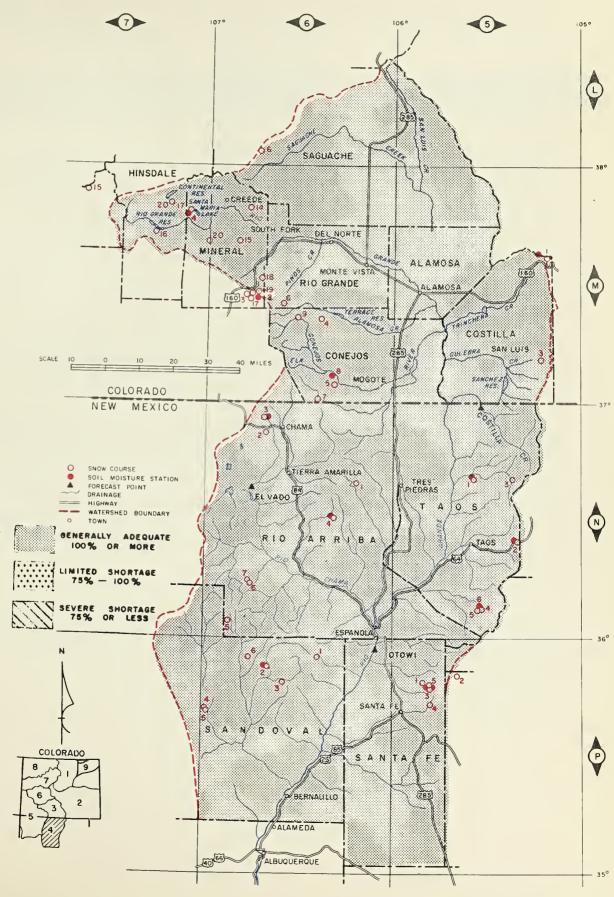
1	OWER RIO	GRANDE			
C	)	50	10	00	150
	1962				
	1961				
	1960			1	
				1	

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
No Forecasts until  March 1.			

STREAMFLOW FORECAST

- (10) Observed flow plus changes in storage in Santa Maria, Rio Grande, Continental, Terrace, Sanchez, Platoro and El Vado Reservoirs.
  - \* Rio Grande at Otowi and Rio Grande at San Marcial Forecast and Average Mar-July inclusive.

# RIO GRANDE WATERSHED IN NEW MEXICO



SNOW		CURREN	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CO (INCHE LAST YEAR	
RIO GRANDE (Colorado) Cochetopa Pass Culebra Cumbres Pass (A) Hiway Lake Humphreys LaVeta Pass Pass Creek	6L6 5M3 6M7 6M19 6M15 5M1	1/25 1/30 1/30 1/29 NS 1/30	23 29 50 61  32 40	4.0 5.7 15.0 18.2  9.6 16.6	4.8 NS 8.2 6.7 NS 2.8 3.1	3.5* 6.5 13.5  6.6
Flatoro (A)  Fool Table (A)  Forcupine (A)  River Springs  Santa Maria  Silver Lakes  Summitville (A)  Upper Rio Grande  Wolf Creek Pass  Wolf Creek Summit	6M9 6M14 7M20 6M5 7M17 6M4 6M6 7M16 6H1 6M17	1/30 1/30 1/30 1/29 1/29 NS 1/30 1/29 1/29	66 41 52 29 25  62 36 70	17.8 11.1 15.1 6.4 6.2  16.5 8.2 21.0 22.0	NS NS 4.8 NS 1.3 3.9 8.7 3.6 7.6	6.9% 6.2 4.0 5.1 11.1* 5.6 19.5 17.6*
RIO GRANDE (New Mexico) Aspen Grove Bateman Big Tesuque Chama Divide Chamita Cordova (A) Elk Cabin Fenton Hill Hematite Park Fanchuela Payrole (A) Quemazon Red River Rio En Hedio TAOSE Canyourvey (A) - AIR OBSERVED (B) - ON ADJACENT DRAINAGE	5P1 6N4 5P3 6N2 6N3 5N5 5P4 6P2 5N3 5P2 6N1 6P1 5N1 5P5 5N2	NS 1/29 1/29 1/29 1/30 1/29 1/30 2/1 1/28 1/30 1/27 2/1 1/29	24 14 33 30 16 21 19 20 39 40 23 34 14	5.2 3.3 7.5 6.6 3.9 4.4 5.1 4.9 9.0 9.9 4.7 9.0 3.0	NS NS 2.0 2.8 4.5 6.0  3.7 2.8 2.0 5.9 8.7 3.1 4.2 3.4	3.2 7.6* 3.4 3.9 7.3 6.8 3.0* 3.0* 3.5 6.4 3.4 5.4 5.4
Tres Ritos	5N4	1/29	. 18	4.5	3.3	3.9

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# SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN WATERSHEDS IN COLORADO & NEW MEXICO

as of FEBRUARY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

THE SNOW PACK IN THIS AREA IS ABOVE NORMAL. HOWEVER. NOT SUFFICIENTLY HIGH TO GUARANTEE A GOOD WATER YEAR.

THE SAN JUAN BASIN IS ABOUT 108 % OF NORMAL, AND THE DOLORES HAS ONLY 102%. PROSPECTS FOR A GOOD WATER SUPPLY ARE BETTER ON THE ANIMAS RIVER. WHERE SNOW COVER IS NOW 130% OF THE 15-YEAR NORMAL.

IESS THAN HALF OF THE SNOW SEASON HAS PASSED SO THERE IS STILL AMPLE TIME TO BUILD THE SNOW PACK.

THE HIGH ELEVATION SNOW COURSES ARE GENERALLY ABOVE NORMAL. WHILE THE MEDIUM TO LOW COURSES ARE JUST NORMAL AND EVEN BELOW.

#### SOIL MOISTURE

SOIL MOISTURE OVER THE AREA IS BETTER THAN LAST YEAR. BUT NOT MUCH BETTER THAN THE AVERAGE. THIS AREA GENERALLY HAS GOOD SOIL MOISTURE, ONE REASON WHY THE CURRENT SOIL MOISTURE IS NOT MUCH ABOVE NORMAL.

PRECIPITATION DURING DECEMBER AND JANUARY WAS GENERALLY BELOW NORMAL. TEMPERATURES HAVE BEEN COLD IN THIS AREA AS WAS TYPICAL OF THE REST OF THE STATE.

#### RESERVOTRS

RESERVOIR STORAGE IS RATHER LIMITED IN THIS AREA. WE HAVE NOT RECEIVED THE CURRENT FIGURES FOR VALLECITO, BUT GROUNDHOG HAS 5,000 ACRE FEET COMPARED TO 4,000 ACRE FEET LAST YEAR AND 7.100 ACRE FEET AVERAGE.

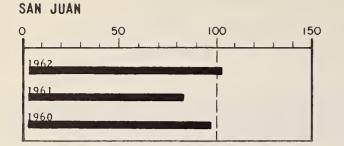
NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

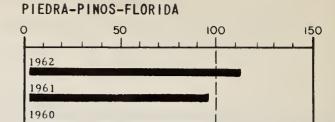
'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

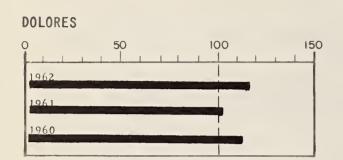
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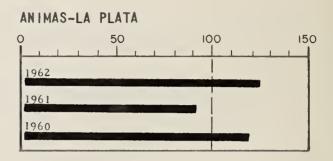
Benny Martin, Area Conservationist, Monte Vista, Colorado E. A., Nicholson, Area Conservationist \*
Grand Junction, Colorado

K.W. Chalmers, State Conservationist, C.A. Tidwell, State Conservationist, New Mexico J.B. Christy, Area Conservationist
Albuquerque, N.M.









## RESERVOIR STORAGE (1,000 AC. FT.)

#### PRECIPITATION

RESERVOIK	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	STATION	AUGUST NOVEL AVE.	THROUGH MBER DEP.	AVE. D	
Groundhog Vallecito	21.7 126.3		4.0 	7.1 42.0	Dolores San Juan		+2.19 +4.04		50 05

MEASURED FIRST OF MONTH

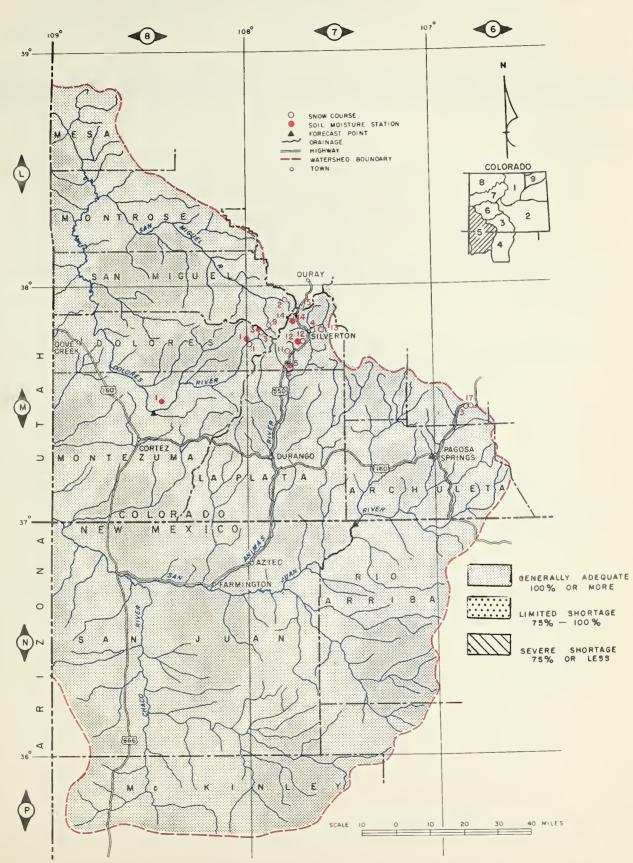
PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

#### SOIL MOISTURE

### STREAMFLOW FORECAST

301L MOTSTOKE					APRIL THROUGH SEP	TEMBER	1	_
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)	STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
Cascade Dolores Lizard Head Mineral Creel Molas Lake Rico	7.0 7.0 7.0 7.0 7.0	0.1 5.7 4.9 3.8	4.5 0.7 4.1 4.1 0.9 4.8	5.4 1.7 5.3 4.8 3.4 5.0	No Forecasts until March 1.			

# SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN RIVERS WATERSHEDS IN COLORADO & NEW MEXICO



SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTROL	CS)
Chama Divide (B) Chamita (B) Upper San Juan Wolf Creek Pass (B) Wolf Creek Summit ANIMAS RIVER Cascade Howardville Ironton Park Mineral Creek Molas Lake Red Mountain Pass Silverton Sub-Station Spud Mountain DOLORES RIVER Lizard Head Rico Telluride Trout Lake	6N2 6N3 6M3 6M1 6M17 7M5 7M13 7M6 7M14 7M12 6M19 7M4 7M11 7M3 7M1 7M2 7M9	1/29 1/29 1/29 1/29 1/30 Est. 1/30 1/30 1/30 1/30 1/30 1/30 1/30 1/30	14 33 72 70 71 33 38 34 45 40 76 26 55 41 22 21 38	3.3 7.5 21.7 21.0 22.0 8.5 10.0 9.5 12.8 11.5 24.5 7.4 17.7 11.8 6.4 4.5 9.0	2.8 4.5 8.6 7.6 8.1 4.2 4.4 5.0 4.6 3.1 2.2 7.7 5.4 5.9 4.6	3.9 7.3 21.8 19.5 17.6* 9.1 8.5* 7.4* 10.3* 14.9* 4.3 16.8* 9.9* 6.2 5.1 10.0*

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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# GUNNISON RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

SNOW COVER IN THIS AREA IS APPROACHING THE MAXIMUM OF RECORD FOR THIS DATE. THE MCCLURE PASS AREA IS ESPECIALLY HEAVY, RUNNING NEARLY 200% OF NORMAL. AREAS NEAR THE HEADWATERS OF THE GUNNISON HAVE CONSIDERABLY LESS SNOW COVER THAN OTHER AREAS. MUCH OF THE HEADWATERS AREA IS JUST SLIGHTLY ABOVE NORMAL.

SNOWPACK ON THE UNCOMPANGRE RIVER BASIN IS 125% OF NORMAL. THIS IS CONSIDERABLY BETTER THAN LAST YEAR AT THIS TIME.

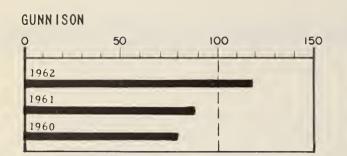
#### SOIL MOISTURE

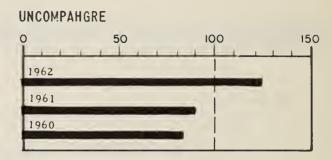
SOIL MOISTURE CONDITIONS THROUGHOUT THIS AREA IS NEAR THE MAXIMUM OF RECORD AND FAR BETTER THAN LAST YEAR. LAST YEAR ONLY ONE STATION INDICATED MORE THAN A TRACE OF MOISTURE IN THE SOIL, WHILE THIS YEAR ALL STATIONS INDICATE SOILS ARE APPROACHING SATURATION. THIS CONDITION WILL INCREASE EXPECTED SUMMER RUNOFF CONSIDERABLY.

#### RESERVOIR STORAGE

CARRY-OVER STORAGE IN TAYLOR PARK RESERVOIR IS 75,000 ACRE FEET COMPARED TO 29,000 ACRE FEET OF LAST YEAR AT THIS TIME, AND A 15-YEAR AVERAGE OF 61,000 ACRE FEET. THIS WILL BE AN EXCELLENT SUPPLEMENT TO SPRING RUNOFF.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.





#### RESERVOIR STORAGE (1.000 AC. FT.)

#### PRECIPITATION

RESERVOIR	USABLE CAPACITY	THIS YEAR	VEAD	15 YEAR AVERAGE 1943 - 57	STATION	AUGUST NOVE AVE.	THROUGH MBER DEP.	AVE	DEP.
Taylor	106.2	75.0	29.1	61.0	Gunnison	8.28	+3.83	•60	06

MEASURED FIRST OF MONTH

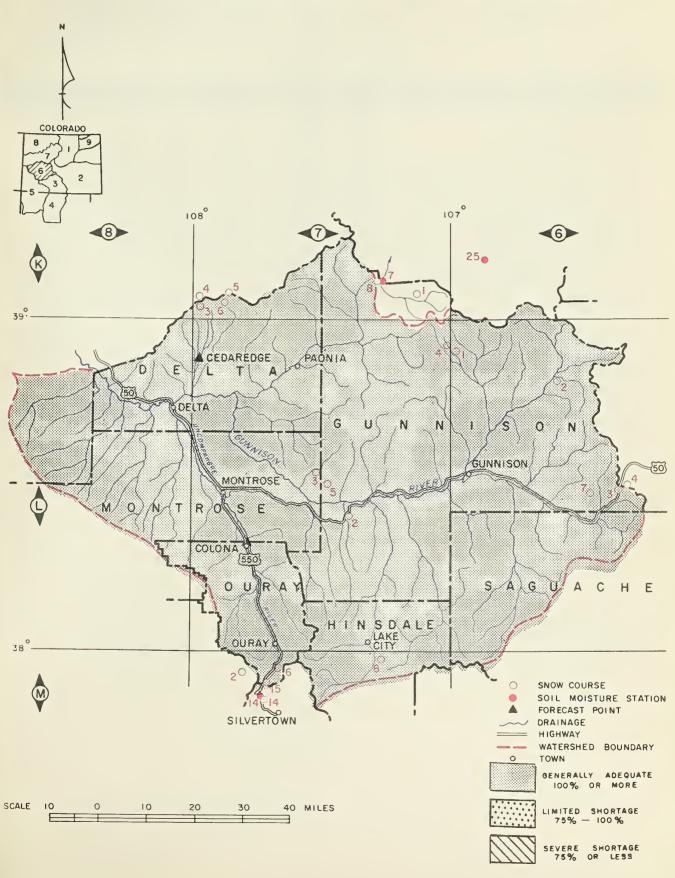
PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

#### SOIL MOISTURE

### STREAMFLOW FORECAST

					APRIL THROUGH SEPTEMBER
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)	STREAM FORECAST APRIL YEAR AVER. STATION SEPT. 1943.
King Maroon Mineral Creek Placita	8.0 8.0 7.0 8.0	5.5 7.0 4.9 6.4	2.6 0.1 4.1 0.1	5.4 2.6 4.8 2.1	No Forecast issued until March 1.

# **GUNNISON RIVER WATERSHED IN COLORADO**



SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTROL (INCHE	
GUNNISON RIVER Alexander Lake (A) Black Mesa Blue Mesa Cochetopa Pass Crested Butte Keystone Lake City Long Draw Mesa Lakes (B) Monarch Pass (B) McClure Pass (A) Mineral Creek (B) North Lost Trail (A) (B) Park Cone Park Reservoir (A) Porphyry Creek Trickle Divide (B) (A) Tomichi UNCOMPAHGRE RIVER Ironton Park Lizard Head Red Mountain Pass (B) Telluride Trout Lake	7K3 7L5 7L2 6L6 6L1 7L3 7M8 7L4 7K4 6L4 7K1 6L2 7K6 6L3 7K5 6L7 7M6 7M3 7M15 7M2 7M9	1/25 NS NS 1/25 1/29 1/30 NS NS 1/28 1/29 1/25 1/26 1/25 1/26 1/25 1/29 1/25 1/29 1/25 1/29	68  23 44 64  40 56 67 45 63 50 67 71 42 34 41 76 21 38	19.2 	3.5 	13.4  3.5* 9.4  10.2 10.8 11.4* 7.4* 9.2 7.0 15.6 10.0 17.0  7.4 9.9* 14.9* 5.1 10.0*

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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Colorado State University
Ft Collins, Colorado

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UNITED STATES

DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Ft. Collins, Colorado

OFFICIAL BUSINESS

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U.S. DEPARTMENT OF AGRICULTURE

# COLORADO RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

PROSPECTS FOR A GOOD WATER SUPPLY LOOK BETTER THIS YEAR THAN ANY SINCE 1957. SNOW COVER IS RUNNING ABOUT 140 PERCENT OF NORMAL. HIGH ELEVATION SNOW COVER ON THE ROARING FORK AND PLATEAU CREEK IS EVEN HIGHER THAN 140%. MEDIUM TO LOW SNOW IS RUNNING JUST ABOVE NORMAL, HOWEVER, THIS SNOW EXTENDS TO MUCH LOWER ELEVATIONS THAN NORMAL. SNOWFALL STARTED MUCH EARLIER THAN IS USUAL THIS YEAR AND HAS NOT LET UP. CONTINUED SNOWS WILL VIRTUALLY ASSURE EXCELLENT WATER SUPPLIES FOR WATER USERS ON THE COLORADO RIVER IN COLORADO.

#### SOIL MOISTURE

SOIL MOISTURE IS ALSO A BRIGHT PICTURE. ALL SOIL MOISTURE STATIONS INDICATE MORE MOISTURE THAN IS USUAL FOR THIS DATE. THERE IS FAR MORE MOISTURE THAN LAST YEAR AT THIS TIME. LATE SPRING AND FALL PRECIPITATION WAS CONSIDERABLY BETTER THAN NORMAL. FALL RIVER FLOW WAS ABOVE NORMAL BECAUSE OF THESE RAINS. SOILS WERE SATURATED WHEN SNOWFALL STARTED. THE EARLY SNOWFALL KEPT THE SOIL IN GOOD CONDITION.

THE POSSIBILITY OF GOOD SUMMER RUNOFF IS INCREASED BY THIS EXCELLENT SOIL MOISTURE.

#### RESERVOIR STORAGE

RESERVOIRS ON THE UPPER COLORADO CONTAIN MORE CARRY-OVER STORAGE THAN LAST YEAR AND ABOUT 165% MORE THAN IS NORMAL AT THIS TIME OF YEAR.

GRANBY WHICH IS A PART OF THE BIG THOMPSON PROJECT CONTAINS MORE WATER THAN ANYTIME SINCE 1954.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

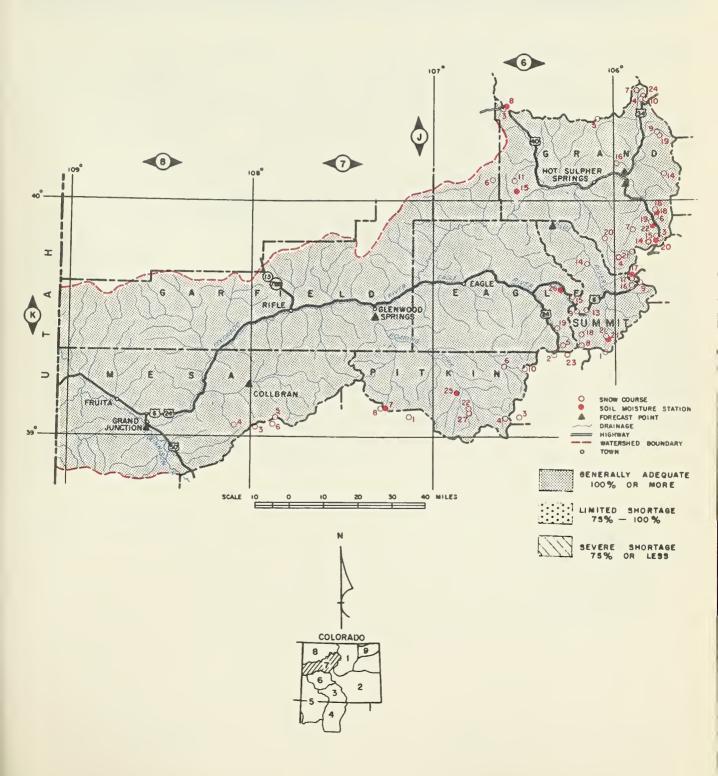
#### 'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

ISSUED BY: SOIL CONSERVATION SERVICE

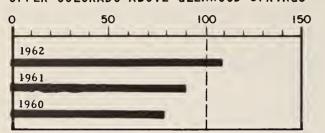
K. W. Chalmers, State Conservationist, Colorado E. A. Nicholson, Area Conservationist
 Grand Junction, Colorado
 M. H. Weaver, Area Conservationist,
 Glenwood Springs, Colorado

SNOW		CURRE	NT INFORMA	TION	PAST R	ECORD
		DATE	SNOW	WATER	WATER C	
SNOW COURSE	NO.	OF SURVEY	DEPTH (INCHES)	(INCHES)	LAST YEAR	AVERAGE 1943 - 57
COLORADO RIVER (UPPER)						1943 - 57
Arrow	5 <b>K</b> 6	1/29	40	9.6	3.9	6.5
Berthoud Pass	5K3	1/29	44	12.9	6.1	8.8
Berthoud Summit	5K14	2/1	48	13.5	7.0	12.0*
Blue River	6K21	1/30	31	7.5	2.7	
Cooper Hill	6K23	1/28	42	8.9	4.7	
Fiddlers Gulch	6K5	Est.	60	16.0	6.1	10.0
Fremont Pass	6K8	1/31	54	15.0	6.7	10.3
Frisco	6K13	1/30	29	7.1	1.8	5.7*
Glen Mar Ranch	6K20	1/26	33	7.5	3.7	5.8*
Gore Pass	6J11	1/26 1/31 1/31	38	10.9	3.7	8.5*
Granby	5J16	1/31	26	5.7	2.3	4.6*
Grand Lake	5J19	1/30	33	6.2	1.5	5.6*
Grizzly Peak	5K9	1/29	54	15.0	6.1	11.3
Hoosier Pass (B)	6Kl	1/30	41	10.8	6.0	7.2
Jones Pass	5K21	1/26	47	12.2	5.4	
Lake Irene	5J10	NS			5.5	13.6
Lapland	5K7	NS			NS	
Lulu	5J7	NS			NS	
Lynx Pass	6K6	1/31	44	12.4	4.3	7.7
McKenzie Gulch	6K28	NS				
M. Fork Camp Ground	5K4	1/26	36	8.2	3.9	6.2
Milner Pass	5J24	NS			NS	9.0*
Monarch Lake	5J14	NS				7.6*
North Inlet Grand Lake	5J9	Est.	35	6.5	NS	6.1
Pando	6K19	1/30	33	8.8	3.2	6.2*
Phantom Valley	5J4	1/29	35	8.9	3.9	6.6
Ranch Creek	5K18	1/29	32	6.0	1.9	
Shrine Pass	6K9	1/30	59	16.0	5.2	10.8
Snake River	5K16	1/29	30	7.0	2.3	6.1*
Summit Ranch	6K14	Est.	35	7.9	2.6	5.3*
Tennessee Pass	6K2	1/28	36	8.5	3.3	6.9
Vail Pass	6K15	1/30	55	16.0	4.8	11.1*
Vasquez Creek	5K19		42	11.0	4.5	*
Willow Creek Pass	6J5	1/31	41	11.0	4.1	7.8
ROARING FORK RIVER						
Aspen	7J22	1/27	55	13.7	4.8	
Independence Pass Tunnel	6K4	1/26	65	17.1	4.3	10.6
Ivanhoe	6 <b>K</b> 10	1/28	52	17.5	5.6	10.0%
Lift	7K27	1/27	68	15.6	8.1	
McClure Pass (A)	7K8	1/25	67	22.1	5.3	11.4*
Nast	6 <b>K</b> 6	1/29	25	4.8	NS	4.4*
North Lost Trail (A)	7Kl	1/25	63	15.9	4.9	9.2
PLATEAU CREEK	G***	2 /25	1	20.5		20 1
Alexander (A) (B)	7K3	1/25	68	19.2	3.5	13.4
Mesa Lakes	7K4	1/28	40	11.7	4.5	10.2
Park Reservoir (A) (B)	7K6	1/25	67	20.8	6.5	15.6
Trickle Divide (A)	7K5	1/25	71	22.0	7.5	17.0
					•	

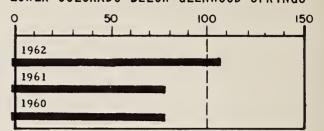
# COLORADO RIVER WATERSHED IN COLORADO



#### UPPER COLORADO ABOVE GLENWOOD SPRINGS



#### LOWER COLORADO BELOW GLENWOOD SPRINGS



#### RESERVOIR STORAGE (1.000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	I5 YEAR AVERAGE 1943 - 57
Granby * Green Mt.	465.5 146.9	370.3 105.6	268.8 74.9	212.9

\* Shorter Period MEASURED FIRST OF MONTH

#### **PRECIPITATION**

STATION	AUGUST THROUGH NOVEMBER AVE. DEP.	WINTER AVE. DEP.		
Upper Colorado	9.86 +4.59	1.12 -	•26	
Lower Colorado	8.26 +3.61		•06	

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

#### SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Berthoud Pass Blue River Gore Maroon Muddy Pass Placita Ranch Creek Vail Pass Vasquez	8.0 7.0 7.0 8.0 8.0 7.0 8.0 7.0	6.7 5.6 4.8 7.0 7.4 6.4 5.5 7.0	5.4 1.3 0.2 0.1 0.6 0.1 3.9 0.2 5.4	4.0 3.1 1.6 2.6 2.7 2.1 4.4 2.8 3.9

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST

STREAM AND STATION	FORECAS APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
No Forecast until March 1.			

- (4) Observed flow plus diversions by Adams tunnel and Grand River ditch plus change in storage in Granby Reservoir.
- (5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.
- (6) Observed flow plus diversion through Twin Lakes tunnel

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#### DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey Colorado State University Ft. Collins, Colorado

OFFICIAL BUSINESS

# YAMPA, WHITE, & NORTH PLATTE RIVERS WATERSHEDS IN COLORADO

as of FEBRUARY 1, 1962

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

SNOW COVER ON THE NORTH PLATTE, YAMPA AND WHITE RIVER BASINS IS CONSIDERABLY BETTER THAN NORMAL. THE NORTH PLATTE HAS A SLIGHT EDGE WITH 150% OF NORMAL WHILE THE YAMPA HAS 130% AND THE WHITE 138% OF NORMAL.

THIS IN DIRECT CONTRAST TO LAST YEAR WHEN SNOW COVER WAS MUCH BELOW NORMAL. IF THIS TREND CONTINUES NEXT SUMMER SHOULD SEE MORE THAN ADEQUATE SUPPLIES. GOOD WATER SUPPLIES ARE VIRTUALLY ASSURED ON THESE BASINS IN COLORADO.

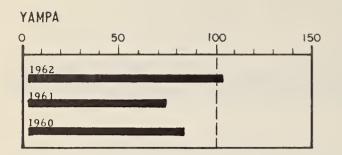
#### SOIL MOISTURE

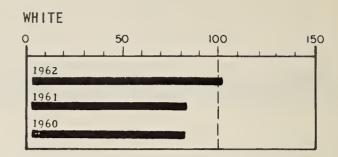
SOIL MOISTURE IS THE BEST ON RECORD. ALL STATIONS INDICATE THE SOILS ARE NEAR SATURATION. THIS WILL TEND TO INCREASE THE SPRING RUNOFF. REPORTS INDICATE ALL VALLEY SOILS ARE IN EXCELLENT CONDITIONS.

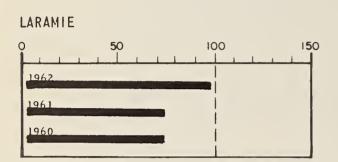
#### RESERVOIRS

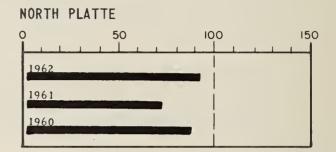
RESERVOIRS ON THE LOWER NORTH PLATTE IN WYOMING AND NEBRASKA ARE SADLY DEPLETED, BUT IF THE PRESENT TREND IN SNOW PACK CONTINUES, DEPLETION OF THESE RESERVOIRS SHOULD CEASE.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.









### SOIL MOISTURE

# STREAMFLOW FORECAST

					APRIL THROUGH SEPTEMBER	
STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)		V ER AG E 1943-57
Hahn's Peak Laramie Road Muddy Pass Two Mile Willow Pass	8.0 7.0 8.0 8.0 7.0	8.0 6.0 7.4 5.8 7.0	5.9 0.8 0.6 0.5 1.1	2.6	No Forecast until March 1.	

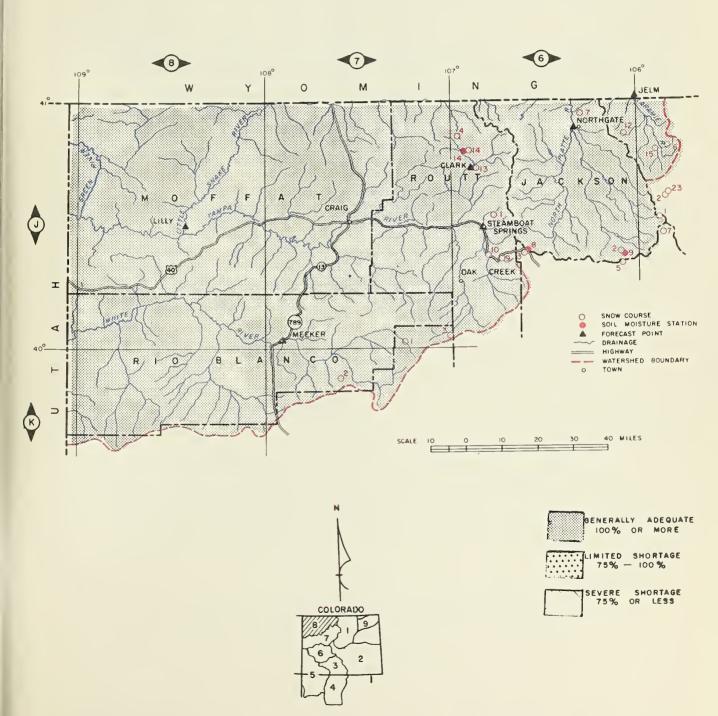
ALL PROFILES 4 FEET DEEP

### PRECIPITATION

STATION	AUGUST T NOVEM AVE.		winter AVE. Dec.			
North Platte	6.08	+3.07	-	10		
White	8.33	+3.81		+.05		
Yampa	9.93	+4.14		+.14		

PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

# YAMPA, WHITE, & NORTH PLATTE RIVERS WATERSHEDS IN COLORADO



SNOW		CURRENT INFORMATION			PAST RECORD	
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTROL (INCHE	
Deadman Hill (A) (B) McIntyre (B) Northgate Park View Roach (A) (B) Willow Creek Pass (B) YAMPA RIVER Bear River Clark (A) Columbine Lodge (B) Dry Lake (A) Elk River (A) Hahn's Peak Lynx Pass (B) Rabbit Ears Yampa View WHITE RIVER Burro Mountain (A)	5J1 6J3 5J6 5J15 6J7 6J2 6J12 6J5 7J3 6J13 6J1 6J4 6J6 6J9 6J10 7K2 7J1	2/1 1/29 2/1 NS 1/29 1/31 NS 1/31 1/31 1/31 1/31 1/29 1/29 1/29 1/25 1/30	63 58 55 -30 33 -41 -40 58 49 47 -44 610 54 40	21.2 18.4 16.8  6.8 7.2  11.0  10.0 18.4 16.7 15.1  12.4 19.1 12.3 16.2 11.6	7.8 10.2 6.1 NS 2.3 3.7 4.1 4.1 NS 4.7 10.2 6.8 6.7 NS 4.3 10.5 6.0 5.4 5.2	13.6 15.3 8.8 3.9* 5.9 11.2 7.8  15.3 13.2 10.8  7.7 17.9* 8.9*

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
(A) - AIR OBSERVED
(B) - ON ADJACENT DRAINAGE

This Report Prepared by
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# LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1962

# U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE COLORADO EXPERIMENT STATE ENGINEERS OF COLORADO AND NEW MEXICO

#### SNOW COVER

SNOW PACK OVER THE ENTIRE BASIN IS ABOVE NORMAL. NOT ONLY IS SNOW COVER EXCELLENT IN THE MOUNTAINS, BUT MOST OF THE PLAINS AREA HAS BEEN COVERED WITH FROM A FEW INCHES TO A FOOT OR MORE ALL MONTH. SNOW COVER IN THE MOUNTAIN AREAS STANDS AT ABOUT 130% OF THE 15-YEAR AVERAGE.

IF THIS TREND CONTINUES, EXCELLENT WATER SUPPLIES CAN BE ANTI-CIPATED THIS YEAR.

LESS THAN HALF OF THE SNOW SEASON HAS PASSED. SNOWFALL MUST CONTINUE TO BE GOOD TO INSURE A GOOD WATER SUPPLY.

#### SOIL MOISTURE

SOIL MOISTURE AT THE HIGH ELEVATIONS IS INDICATING NEAR A RECORD HIGH. HEAVY PRECIPITATION DURING THE LATE SUMMER AND FALL FILLED THE SOIL MANTLE AND SUBSEQUENT EARLY SNOWS HAVE KEPT THE SOILS SATURATED.

SOILS IN THE IRRIGATED AREAS ARE ALSO IN VERY GOOD CONDITION. THIS CONDITION COULD ADD MATERIALLY TO THE ANTICIPATED RUNOFF THIS SPRING.

#### RESERVOIR STORAGE

RESERVOIR STORAGE IS 135% OF NORMAL AS OF FEBRUARY 1. THIS STORAGE IS ALSO BETTER THAN LAST YEAR AT THIS TIME. LATE SPRING AND FALL PRECIPITATION BROUGHT THE RIVER FLOW UP SUBSTANTIALLY ABOVE NORMAL. THERE IS A GOOD CHANCE THAT MOST OF THE RESERVOIRS ON THE LOWER SOUTH PLATTE WILL BE FULL PRIOR TO SPRING RUNOFF. THIS WILL BE AN EXCELLENT SUPPLEMENT TO RIVER RUNOFF.

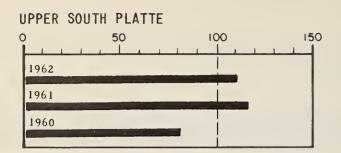
#### STREAMFLOW

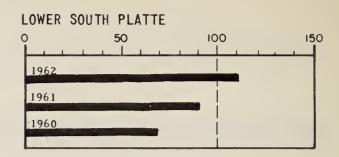
STREMFLOW SHOULD BE CONSIDERABLY ABOVE NORMAL. MOST OF THE UPSTREAM RESERVOIRS ARE FULL OR NEARLY SO. CONSIDERABLE WATER WILL BE PASSED FOR DOWNSTREAM USE.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

# 'THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY'

ISSUED BY: SOIL CONSERVATION SERVICE





# RESERVOIR STORAGE (1,000 AC. FT.)

#### SOIL MOISTURE

KEOLKVOTK	OTOMAGI	- ( ) , 0 0	o no.	,	30	IL MUI	SIUN	_	
RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1943 - 57	STATION	CAPACITY (INCHES)	THIS YEAR		AVERAGE (ALL PAST DATA)
Carter Cheeseman Eleven Mile Empire Horsetooth Jackson Prewitt Point of Rocks Riverside Julesburg	108.9 79.0 81.9 37.7 143.5 35.4 32.8 70.0 57.5 28.2	80.6 79.1 97.8 21.7 121.7 27.1 17.0 66.4 45.1 18.4	63.2 60.9 97.8 27.6 89.2 27.5 3.0 4.6 45.7 20.5	69.2 47.9 69.2 21.1 65.4 26.8 17.3 43.3 37.7 20.5	Alpine Camp Beaver Dam Feather Guard Station Hoop Creek Hoosier Pass Kenosha Pass Laramie Road Two Mile	6.0 7.0	4.2 6.0 5.8	0.5 0.7 0.0 0.7 0.5 0.9 0.4 0.8 0.5	1.7 1.5 1.3 1.4 2.4 2.9  2.6 3.3

MEASURED FIRST OF MONTH

# STREAMFLOW FORECAST APRIL THROUGH SEPTEMBER

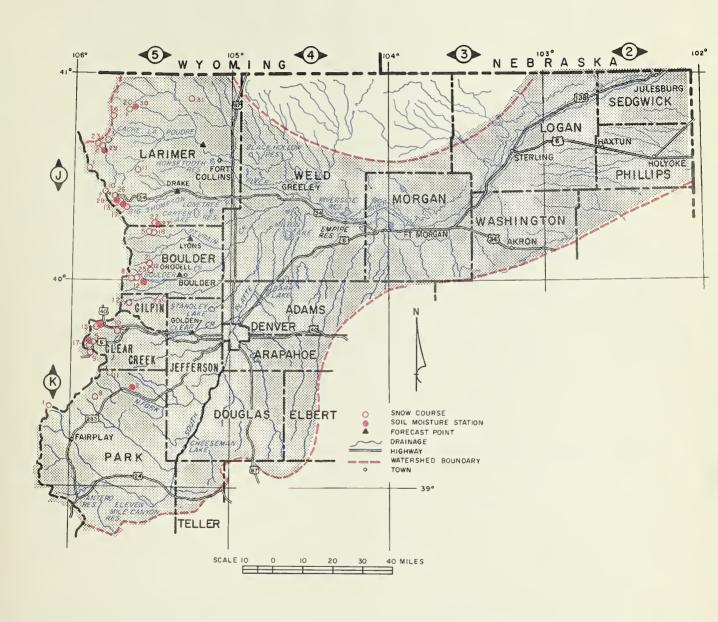
### PRECIPITATION

STAT	ION	AUGUST THROUGH NOVEMBER AVE. DEP.			AVE	Dec.	
Upper Lower			7	+3.7:		29 21	29 18

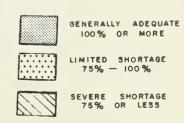
PRELIMINARY U.S. WEATHER BUREAU DATA AVERAGE OF SELECTED STATIONS

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1943-57
No Forecasts until March l.			

# LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO







95pt-365-circoln NEBR 1361

SNOW		CURRENT INFORMATION			PAST RECORD		
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CO (INCHE		
SOUTH PLATTE RIVER AND TRIBUTARIES Baltimore Berthoud Falls Big South Boulder Falls Cameron Pass (A) Chambers Lake Copeland Lake Deadman Hill (A) Deer Ridge Empire Geneva Park Grizzly Peak (B) Hidden Valley Hoosier Pass Hour Glass Lake Jefferson Creek Lake Irene Long's Peak Lost Lake Loveland Pass Loveland Lift No. 1 Pine Creek Red Feather Two Mile University Camp Ward Wild Basin	5K23 5K13 5J3 5J25 5J1 5J2 5J18 5J6 5J17 5K10 5K11 5K9 5J13 6K1 5J11 5K8 5J10 5J22 5J23 5K5 5K24 5J31 5J20 5J26 5J3 5J26 5J3 5J20 5J26 5J3 5J20 5J23	2/1 2/1 1/28 1/30 2/1 1/28 1/29 2/1 NS 1/29 1/28 1/30 Est. NS Est. 1/27 1/28 1/31 1/29 1/30 1/29 1/29 1/29 1/29 Est.	28 43 11 36 63 27 55 24 27 54 41 42 65 34 43 13 56 47 25 47 21 45	7.7 12.0 2.2 4.9 21.2 7.4 4.0 16.8 5.9 5.9 15.0 10.1 10.8 5.6 	4.2 3.9 1.4 6.2 7.8 3.1 2.7 6.1 1.7 4.1 6.1 5.3 6.0 NS 5.5 4.9 5.3 6.2 10.3 2.2 5.4 9.4 4.1 4.3	9.2 1.8 8.0 13.6 5.6 4.8 3.7 4.5 3.7 4.5 3.7 2.2 4.6 13.6 7.4 7.4 9.4 	

NOTE: \* - 1943 - 57 (ADJUSTED AVERAGES)
NS - NO SURVEY
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The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

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Colorado State Engineer
New Mexico State Engineer
Nebraska State Engineer
Colorado Experiment Station
Rocky Mountain Forest and Range Experiment Station

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Forest Service Soil Conservation Service

Department of Interior

Bureau of Reclamation Geological Survey National Park Service Indian Service

Department of Commerce

Weather Bureau

War Department

Army Engineer Corps

Atomic Energy Commission

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#### MUNICIPALITIES

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# FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"